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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/473,012	10/01/99	ARNIROLI	P 1948-4628

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MMC2/1024

EXAMINER

NGUYEN, T

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 10/24/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/473,012

Applicant(s)

Armroll et al

Examiner

Nguyen, Tran

Group Art Unit

2834



☒ Responsive to communication(s) filed on Sep 5, 2000

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11, 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133) Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-30 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-30 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s) _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. **Claims 1-14** are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation "the strip being produced from a material which is less hard than the magnet" is indefinite because the clause "a material is less hard than the magnet" does not clearly cite any metes and bound for the limitations. In other words, with the recitation, one skilled in the art would not ably to figure out what kind of material, i.e., nonmetallic or metallic material, if it is metallic should it be magnetic or nonmagnetic material that has certain characteristics which make the material less hard than the magnet. Thus, with this recitation, one skilled in the art would not ably to figure out or determine whether there is a patentable infringement or not. *According to MPEP section 2171*, two Separate Requirements for Claims Under 35 U.S.C. 112, Second Paragraph:

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(1) the claims must set forth the subject matter that applicants regard as their invention; and

(2) *the claims must particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.* (Emphasis added).

In claims 12 and 27, the recitation "at least two of the magnets being associated with respective strips" (strips in plural form) is indefinite because the independent claim recites "a trip" (singular form). Also it is unclear that at least two magnets associated with one strip or two strips? Should it be the second case then should each strip being disposed on opposed faces of the magnet?

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-4, 12-19 and 27-29** are rejected under 35 U.S.C. § 103(a) as being unpatentable over XP-000726444 (hereafter XP'444), in view of Ragaly, EP 0837-538-A.

XP'444 discloses an alternator (as shown in figs. 1-2) comprising: two claw-pole pieces (30, 32) interlacing, the claw pole having a groove (30C, 32C) wherein the claw pole's groove accommodating at least one magnet (54). XP'444 however does not disclose a strip interposed

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between one face of the magnet and the groove, wherein the trip covers over the magnet's circumferential face that is oriented in a direction opposite to the alternator's shaft.

Ragaly disclose an alternator having a plurality magnet embedded into the pole piece of the rotor, wherein the claw pole's groove (25) accommodating at least one magnet, and a strip (35) interposed between one face of the magnet and the groove, wherein the trip covers over the magnet's circumferential face that is oriented in a direction opposite to the alternator's shaft.

Thus, it would have been an obvious matter of engineering design choice at the time the invention was made to modify the XP'444 alternator by providing a trip to interposed between one face of the magnet and the groove, as taught by Ragaly, because this would provide a means to firmly restrain the magnets in position against the centrifugal force.

Regarding the material of the strip, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select glass fiber embedded in pre-impregnated plastic since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

5. **Claims 5-8 and 20-23** are rejected under 35 U.S.C. § 103(a) as being unpatentable over XP'444 and Ragaly, as rejected in the rejection against the base claims, and in view of level of ordinary skill of a worker in the art.

The combination of the XP'444 and Ragaly refs discloses the claimed invention, except for the added limitations of two strips interposed opposite surfaces of the magnet, as recited in

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claim 5, or the groove has an U-shaped profile, as recited in claim 6, or a V-shaped profile, as recited in claims 7-8.

Regarding the two strips interposed opposite surfaces of the magnet, the prior art combination does disclose a strip covering the magnet for magnet protection and prevent the magnet from being displaced due to the centrifugal force. Those skilled in the art would realize that it would have been obvious to one skilled in the art to apply this teaching and further provide another strip for the opposite surface of the magnet because this is merely duplicating a disclosed element of the device.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the alternator with two strips interposed opposite surfaces of the magnet, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding the U-shaped profile or the V-shaped profile of the groove, the prior art combination does disclose that the claw poles are configured with groove for accommodating the magnet therein in order to retain the magnet in place. Those skilled in the art would understand that configuring a groove with different profiles would be an engineering design choice based upon the size and shape of the magnet that being employed in the alternator.

Thus, it would have been an obvious matter of engineering design choice at the time the invention was made to configure the pole's groove with either an U-shaped profile or the V-shaped profile, since such a modification would have involved a mere change in the size or shape

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of a component. A change in size or shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

6. **Claims 9, 24 and 30** are rejected under 35 U.S.C. § 103(a) as being unpatentable over XP'444 and Ragaly, as rejected in the rejection against the base claims of claims 9 and 24, and in view of Yamada et al, USP 5734216.

The combination of XP'444 and Ragaly refs discloses the claimed invention, except for the added limitations of a layer of adhesive between the strip and the magnet.

However, Yamada et al disclose a magnet rotor for a dynamoelectric machine comprising a yoke (1) covering one circumferential face of a magnet (2); thus, the yoke is read as a strip covering the magnet's circumferential face that is oriented opposite to a shaft of the rotor; an adhesive layer (3), which is more flexible than the magnet, interposed between the magnet and the strip (1) (figs. 1-2A). Yamada et al teach that by providing an adhesive layer between the magnet and the yoke the magnet can be effectively prevented from being thermally damaged or broken even in used of high temperatures (col 2, lines 1-4).

Thus, it would have been an obvious matter of engineering design choice at the time the invention was made to modify the alternator by providing a layer of adhesive between the strip and the magnet, as taught by Yamada et al, because this would effectively prevent the magnet from being thermally damaged or broken even in used of high temperatures (col 2, lines 1-4).

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7. **Claims 10-11 and 25-26** are rejected under 35 U.S.C. § 103(a) as being unpatentable over XP'444, Ragaly and Yamada, as rejected in the rejection against the base claims, and in view of Mitcham et al, USP 5877578.

The combination of XP'444 and Ragaly and Yamada refs discloses the claimed invention, except for the added limitations of the magnet including two separate parts bonded together by a layer of the adhesive material.

Mitcham et al, however, disclose a permanent magnet rotor (figs. 2-6) comprising: a plurality of separate magnet parts (20) that are bonded together. Mitcham et al teach that the magnets are subdivided to reduce the generation of eddy current in the magnet (col. 2 lines 29-31, 34-37).

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the alternator by configuring the magnet as a plurality of separate magnets bonded together by a layer of adhesive material, as taught by Mitcham et al, because this would provide a composite magnet that would reduce the generation of eddy current in the magnet (col. 2 lines 29-31, 34-37) resulting increasing effective performance of the alternator.

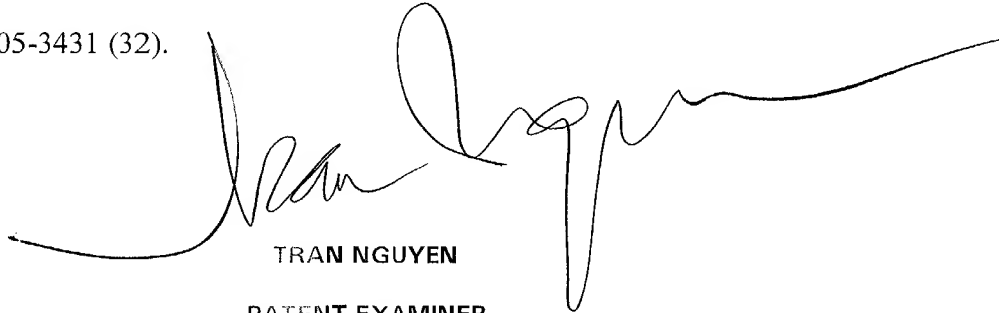
Regarding the adhesive material as the same adhesive material that is used for bonding the strip and the magnet, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select the adhesive material for bonding the magnets together to be the same as adhesive material for bonding the strip and the magnet, since it has been held to be within

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the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran Nguyen whose telephone number is (703) 308-1639.
9. Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. The fax phone number for this Group is (703) 305-3431 (32).



TRAN NGUYEN
PATENT EXAMINER

TC-2800

October 19, 2000